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(71) Applicant: CITICORP POS INFORMATION SERVICES, INC. [US/US]; 1266 East Main Street, Stamford, CT 06902-3546 (US).		
(72) Inventors: IRION, Donald ; 72 Long Meadow Road, Wilton, CT 06897 (US). SHULTZ, John ; 12 Blue Rock Drive, Stamford, CT 06903 (US).		
(74) Agent: SCOTT, Thomas, J., Jr.; Howrey & Simon, 1730 Pennsylvania Avenue, N.W., Washington, DC 20006 (US).		

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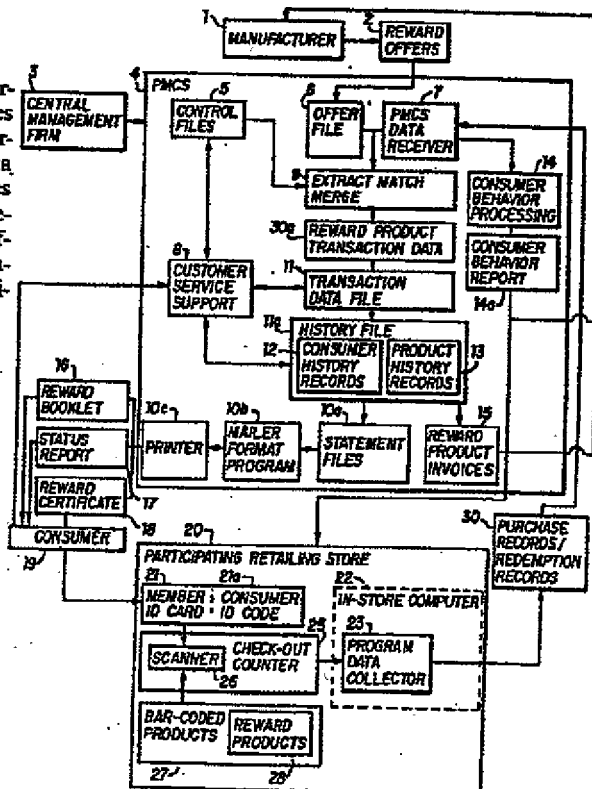
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(54) Title: AUTOMATED PURCHASE REWARD ACCOUNTING SYSTEM AND METHOD

(57) Abstract

A marketing method for providing manufacturer purchase reward offers (2) by automatically tracking the purchases of member consumers through the use of bar-coded membership cards (21) and using the purchase records (30) in a data processing system (4) to determine if the required purchases have been made to earn a reward. Each member consumer receives a reward booklet (16) disclosing the available reward offers, a periodic status report (17) indicating the member consumer's progress toward earning rewards, and a reward certificate (12) for those rewards earned.



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## AUTOMATED PURCHASE REWARD ACCOUNTING SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

This invention relates generally to automatic tracking of consumer purchases and providing fulfillment and redemption of purchase incentives. More particularly, this invention relates to computerized redemption systems utilizing universal product and consumer identification codes.

Producers of food, drugs, mass merchandising items and related products in the packaged goods industry use various marketing techniques to encourage consumer purchases and establish brand loyalty. Two of the most commonly used purchase incentives are the rebate offer and the discount coupon. Both of these purchase incentive media, under current systems, present significant problems in distribution, fulfillment and redemption.

The rebate offer essentially offers a refund from the manufacturer to the consumer for the purchase of a specified quantity of a particular product. Because the rebate offer often requires the purchase of more than one of the rebated product, it serves as an enticement for the consumer to continue purchasing the rebated product. This multiple purchase requirement has more potential for developing sales volume and brand loyalty than incentives,

such as the discount coupon, which encourage the one-time purchase of a product. However, the incentive created by rebate offers is diminished by the inconvenience in fulfilling offer requirements and the unreliable nature of the redemption process. These shortcomings reduce the value of the rebate offer to both the consumer and the manufacturer.

Regarding the offer requirements, the consumer is typically required to save proofs-of-purchase from product packaging and mail them with an associated offer form to the manufacturer to earn the rebate. Many consumers find it too inconvenient to remember to remove the proofs-of-purchase from products purchased over an extended period of time and save them with the associated form. Additionally, the postage for mailing the proofs of purchase diminishes the value of the rebate to the consumer.

Another disadvantage of the current rebate system is that some consumers from different households pool their proofs-of-purchase to submit for rebate. Although this practice results in quicker rebate redemptions for these consumers, it defeats the purpose of the manufacturer for offering multiple purchase rebates. Consumers engaging in this practice will likely switch brands to take advantage of other rebate offers when, together, each participating consumer has to purchase only one of the rebated products. Hence, it is an object of the invention to provide a multiple purchase incentive method which assures

participating manufacturers that a single household purchases the required quantity to earn the purchase rebate.

When a consumer does perform the necessary steps to receive a rebate, he must typically wait several weeks to receive the rebate from the manufacturer. In addition, manufacturers often delegate rebate redemption processing to coupon clearinghouses. These clearinghouses often use unskilled labor to process coupons and rebates in large volumes. As a result, a substantial percentage of redemption requests are lost or improperly processed. In view of the inconvenience and lack of reliability to consumers of mailing the necessary documents to the manufacturer to receive a rebate, it is still another object of the invention to provide a system that automatically credits a consumer's purchases toward a purchase reward without the mailing requirements.

Regarding coupons as purchase incentives, a brief description of the current coupon distribution and redemption system and the prior art developments in that area will indicate further advantages of the present invention as a method for effecting purchase reward offers. Typically, coupons are distributed to the public through newspapers, magazines and direct mail. The consumer clips the coupon from the publication and presents it when purchasing items at the check-out counter of a retail store. At least in theory, the check-out clerk inspects the coupon to ensure that all the conditions for its redemption are met. A typical condition for redemption

is the purchase of a specified item before a specified expiration date. If the coupon is validly presented, the clerk deducts the coupon value from the consumer's bill.

In the reimbursement process, retail store personnel periodically gather all redeemed coupons, sort them according to manufacturer, and tally the individual totals for reimbursement. The calculated figures and coupon groupings are usually audited by a coupon clearinghouse which then sends them on to the manufacturers. The manufacturers then reimburse the retail store for the redeemed coupons plus a standard handling charge.

Through the years, members of the packaged goods industry have experienced many problems with the coupon distribution and redemption system. For example, in the area of distribution, manufacturers have found that few consumers will go through all the steps necessary to redeem their coupons. More commonly, many consumers forget to bring coupons that they have clipped and saved to the store.

This consumer behavior defeats the manufacturer's purpose for offering the purchase incentive. A manufacturer distributes coupons with the expectation that the coupons will induce sales of its product by offering a discount. However, when the coupon is forgotten or disregarded, the consumer is usually not aware of the incentive when he is selecting a product among different brands at the retail store.

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Of course, not all consumers forego the benefit of coupons. In fact, some bring several coupons to the retail store to take advantage of another weakness of the coupon system. Because the verification of redemption conditions is performed by the check-out clerk, a consumer can usually overwhelm the clerk by presenting so many coupons that it is impractical to verify the required purchases for all of them. Typically, the check-out clerk does not have the time to verify that the consumer has bought the correct size or quantity of the correct brand for each of a dozen coupons. As a result, some coupons are misredeemed without the required purchase.

The auditing and reimbursement stages of the coupon system also present several problems. First, unscrupulous persons have used deficiencies in the coupon system to fraudulently submit unredeemed coupons to the manufacturers for reimbursement. For example, some retail store personnel have purchased large quantities of unredeemed coupons from collectors at prices below their face value. The store personnel then return these coupons to the manufacturers for reimbursement at full face value. Although this practice is sometimes used to reap large profits, it is commonly used on a smaller scale to cover shrinkage losses of the retail store. Nevertheless, these fraudulent practices cost manufacturers millions of dollars a year.

Another source of trouble in the coupon system is the coupon clearinghouse. While both the manufacturer and

the retail stores rely on the coupon clearinghouse to impartially verify the tallied figures for coupon reimbursement, the volume of coupons audited often requires the clearinghouse to use cheap, unskilled labor, often resulting in erroneous totals.

In the prior art, several methods have been devised to alleviate problems in the coupon system. With the integration of computer systems into the packaged goods industry, there have been a number of attempts to combat the problems in the coupon system through application of available computer technology.

Although equipment used to read machine-readable codes, such as the Universal Product Code (UPC) bar-code, was first designed to improve inventory control and check-out efficiency, U.S. Patent No. 3,959,624 to Kaslow et al. discloses the use of machine-readable codes on coupons. Coupons bar-coded with the UPC can be read accurately by scanning equipment. The information picked up from the coupon is compared with stored information read from the bar-codes of purchased products. The controlling computer system can determine the validity of the coupon redemption and either allow or inhibit a discount accordingly. Thus, the losses associated with a check-out clerk's failure to verify satisfaction of coupon conditions can be avoided.

In addition, the Kaslow et al. system stores records of the manufacturer names and discount amounts of redeemed coupons to be used later for coupon auditing and reimbursement purposes. With these computer generated



totals, the problems associated with fraud and clearinghouse auditing errors are greatly reduced.

In the area of coupon distribution, U.S. Patent No. 4,554,446 to Murphy et al. reveals two purchase incentive techniques employing computer systems. In the first method, a computerized printer produces machine-readable coupons at the supermarket so that a consumer does not have to remember to bring them. The system can be controlled by store personnel or adapted to receive selections from the consumer directly. Moreover, Murphy et al. suggests the use of machine-readable customer identification cards to limit those consumers eligible to obtain the computer-generated coupons.

The second computer-based purchase incentive method disclosed by Murphy et al. relates to so-called self-liquidating premiums. A self-liquidating premium is essentially an offer from a manufacturer to consumers who purchase a particular product to buy a different product at a substantial savings. Because the premium is offered to entice purchases of the required product, the premium product is usually offered at a break-even price; hence, it is self-liquidating.

In order to take advantage of the premium offer, a consumer buys a specified product. The advertisement for the premium product is usually on the package of the required product. Under the typical method, the consumer must then send the manufacturer some proof of purchase and

the premium purchase price. These items are usually sent by mail from the consumer's home.

Murphy et al. discloses a computer system for generating machine-readable sales vouchers to order the premium product at the retail store. The store computer stores files related to the premium offers. When a consumer makes the required purchase, he presents the sales voucher and the payment of the premium purchase price. The store computer records the transaction so that the retail store can order the premium product directly for the consumer. The retail store becomes a point of purchase for premium products, making the offer more convenient for the consumer and thereby increasing the incentive value of the premium offer.

Another coupon distribution technique utilizing a computer system is disclosed in U.S. Patent No. 4,723,212 to Mindrum et al. Recognizing that a manufacturer desires to distribute coupons to consumers who purchase a competitor's products, Mindrum et al. teaches a system for generating a machine-readable coupon for a product when the bar-code of a competitive product is read by the check-out terminal scanner. Hence, the manufacturer is able to distribute a coupon directly to the consumer it is targeting, a customer of the competition.

Another system exists in the prior art which uses a computer system to offer purchase incentives without distributing coupons. In the system, the consumer is issued a customer identification card with an encoded

consumer identification code in machine-readable format. A list of products subject to discounts is distributed at the retail store. When a valid identification card is scanned at the check-out terminal, the store computer automatically discounts those items on the list according to stored product files.

Each prior art system addresses some of the problems related to the coupon distribution and redemption system. However, the prior art devices and methods focus on isolated coupon transactions. None of the prior art systems provides a method for continuing the purchase incentive after the sales transaction involving the coupon is completed. Accordingly, it is further object of the invention to provide a method for encouraging continued purchases of targeted products beyond the one-time incentive of prior coupon systems.

#### SUMMARY OF THE INVENTION

The present invention resides in a marketing program for rewarding specific purchase behavior and increasing consumer brand loyalty for manufacturers who participate in the program. The present invention also provides the system components necessary to implement this marketing program.

Manufacturers are solicited to provide incentive rewards for purchases of specific quantities of their products. The purchase incentives are compiled into a reward booklet which is distributed periodically directly

to consumers at their homes and at participating retail outlets. The offers include descriptions of the participating products and the conditions for fulfillment of the purchase reward offer requirements.

A consumer joins the program and receives a consumer identification code and a member identification card. This consumer identification code can be encoded in machine-readable code on the identification card, in which case the code is scanned at the check-out counter when the consumer purchases his products. Alternatively, the consumer identification code can be in non machine-readable format, in which case the code is entered manually on the check-out counter terminal. The consumer identification code is used to identify the consumer's purchases in purchase records stored in a program data collector at the retail store.

The purchase records of the UPC codes for the products purchased by identified consumers at the participating retail outlets are periodically transferred to a program management computer system maintained by a marketing firm. In the program management computer system, the consumer identified purchase information is compared to the offer descriptions of the participating products and recorded for each consumer. Each consumer is sent a periodic summary of all his purchases of the participating products and a reward certificate for the rewards earned. This reward certificate can be a negotiable check or can be adapted for redemption at a participating retail store.

The manufacturers of the participating products are invoiced for their portion of the rewards earned.

Reward certificates that are adapted for redemption at a participating retail store are redeemed by the consumer using the identification card and consumer identification code. The retail outlet then forwards the certificates to the marketing firm for reimbursement. The reward certificates may have machine-readable codes, in which case, the retail store can record the redemption transactions on the in-store computer system.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a block diagram of the interaction between the various system components in the marketing program of the present invention.

FIG. 2 shows a block diagram of the interaction of the various system components in an alternative embodiment of the present invention in which a retail store computer performs preliminary processing of the reward product purchase records.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, the marketing method of the present invention involves four groups of participants comprising manufacturers 1 who define purchase reward offers 2, consumers 19 who qualify for the reward offers 2 by making required purchases which are tracked through a program management computer system (PMCS) 4, retail outlets

20 that assist in the tracking of required product purchases 28, and a central management firm 3 which controls the PMCS 4 and coordinates the interaction of the other participants. Each retail outlet 20 may be part of a retail chain, and the method of the present invention can be adapted for use at retail outlets 20 of different retail chains.

Manufacturers 1 are solicited by the central management firm 3 to define purchase reward offers 2. The purchase reward offers 2 can include standard rebates, trial rebates, gift offers, and sweepstakes offers. In the preferred embodiment of the marketing method, the purchase reward offers 2 require multiple purchases of a particular product type or brand, but a reward offer 2 may be offered for the purchase of a single item. The purchase reward offers 2 may also offer a reward for the combined purchases of several different products.

In the standard rebate offer, the manufacturer offers a refund for the purchase of a specified quantity of a particular product. Similarly, in the trial rebates, the manufacturer offers a substantial refund for an initial purchase of a particular product and reduced discounts on subsequent purchases of the same product.

The gift offers and sweepstakes offers can also be adapted to provide continuous purchase incentives. The manufacturer can offer to credit the consumer with points for each purchase of a particular product. A gift is earned when a particular number of points is attained by

the consumer. Similarly, the manufacturer can offer an entry into a sweepstakes drawing for each product purchase.

Once the purchase reward offers 2 are defined by the manufacturer 1, the central management firm 3 stores records of the purchase reward offers 2 in an offer file 6, residing in the data bank of the PMCS 4. The products that are the subject of the purchase reward offers 2 have associated Universal Product Codes (UPC), which are used to access the reward offer records in the offer file 6. In the instance when a reward offer applies to several products, the UPC of each eligible product for the reward offer will access to the reward offer record to which the products apply. Each offer record contains an offer description, the offer purchase requirements, the offer value, the product UPC(s), and other information pertaining to the offer such as the manufacturer of the product(s).

When a consumer 19 joins the marketing program, the central management firm 3 issues the consumer 19 a consumer identification code 21a and a member identification card 21. In the preferred embodiment, the consumer identification code 21a is encoded in machine-readable format on the member identification card 21. The machine-readable code is preferably UPC bar-coding. Alternatively, the consumer identification code 21a can be imprinted in non machine-readable format on the member identification card 21.

In still another embodiment, the consumer identification code 21a is encoded on a card used for

different purposes. For example, many banks issue debit cards to their customers which contain account information on a machine-readable magnetic stripe. Some retail stores have magnetic stripe scanners installed at their check-out terminals for allowing customers to use their debit cards to authorize the debiting of their bank accounts for the purchase amount. The consumer identification code 21a could be stored on the magnetic stripe of such a debit card, thereby providing more convenience to the consumer. Additionally, the consumer identification code 21a could be imprinted elsewhere in either machine-readable code or non machine-readable code on such a debit card and either scanned or read visually.

The central management firm 3 produces a reward booklet 16 to inform the consumer 19 of the reward offers 2 that are available. This reward booklet 16 is sent periodically to participating consumers 19. The booklet is also distributed to various other potential members through in-store display stands and target-market direct mail. In the preferred embodiment, the reward booklet 16 contains descriptions of the reward products 28 and details of the reward offer 2, purchase requirements, and rewards. Additionally, a list summarizing the product names and reward amounts is included.

When shopping, the consumer 19 uses the information in the reward booklet 16 to select reward products 28 at a participating retail store 20. In a preferred embodiment of the invention, the reward products



28 are also distinctively identified on the shelves at the retail store 20. This identification could be performed by use of stickers displaying a distinctive marketing program symbol or by signs located near the products.

After making his product selections 27 and 28, the consumer 19 presents identification card 21 and consumer identification code 21a at the check-out counter 25 of the retail store 20. In the preferred embodiment, the bar-coded identification card 21 is read by a bar-code scanner 26 installed at the check-out counter 25. Alternatively, the consumer identification code 21a is in one of the above-described non machine-readable formats and is entered manually either by the check-out clerk or the consumer 19. \* By requiring the presentation of the member identification card 21 and the consumer identification code 21a at the time of purchase, the present invention ensures that consumers 19 from different households do not combine their purchases towards earning rewards.

After the consumer 19 has been identified at the check-out\* terminal 25, the bar-codes for the consumer's 19 selected products 27 and 28 are read by the scanner 26. The scanner 26 transmits the information from these bar-codes to a program data collector 23 located in the retail store 20. Preferably, the program data collector 23 is a computer system supplied by the central management firm 3 to the retail store 20. The program data collector 23 comprises a data processor and a memory unit for receiving and storing the consumer identification code for the

consumer 19 in association with the UPC coding information for the products purchased by the consumer 19 in purchases records 30.

Alternatively, the program data collector 23 can be a component part of the in-store computer 22 of the retail store 20. In this embodiment, the in-store computer 22 typically receives purchase information from the scanner 26 for accumulating sales data for the retail store 20. When the retail store 20 participates in the marketing program, the in-store computer 22 is programmed to additionally store the purchase records 30 for the marketing program. Each purchase record 30 contains consumer identification code 21a of the consumer 19 and the bar-code information of the products 27 and 28 purchased by the consumer 19.

At the end of each business day, the purchase records 30 are transferred from the participating retail store 20 to a PMCS data receiver 7 in the PMCS 4. The PMCS data receiver 7 includes a telecommunication system for communicating with the program data collector 23 and a data concentration file for storing the purchase records 30. Because the PMCS 4 stores the consumer identification codes for all participating consumers 19 and the UPC codes for the reward products 28, the marketing program can be provided to consumers 19 through a plurality of retail stores associated with different retail chains. In the preferred embodiment, the consumer 19 is able to make

reward product 28 purchases at more than one retail store 20 and have the purchase credits combined in the PMCS 4.

Periodically, usually weekly, the purchase records 30 residing in the PMCS data receiver 7 are compared with the offer records in the offer file 6 to determine which purchases correspond to an available purchase reward offer 2. The reward product transaction data 30a is extracted from the purchase records 30. Using control files 5, the reward product transaction data 30a is sorted according to the consumer identification codes 21a and according to reward products 28 purchased. Additionally, the control files 5 provide consumer linking information for grouping the reward product transaction data for consumers 19 who have a consumer relationship and request to have their purchases combined for the satisfaction of the reward offer requirements.

Additionally, the central management firm 3 uses the purchase records 30 stored in the PMCS data receiver 7 to analyze consumer purchase behavior. This information is critical to manufacturers and retailers for determining how to improve marketing strategies and inventory optimization. The purchase records 30 are processed according to parameters set in consumer behavior processing programs 14. The output of the consumer behavior processing 14 is used to prepare consumer behavior reports 14a which are sent to manufacturers 1 and retailers 20. The consumer behavior processing can be performed for the purchase records 30 which contain information regarding

both reward and non-reward products. In addition, the purchase records 30 can be compared with the reward information stored in the offer file 6 to produce purchase data related only to reward products 28, which is processed for consumer behavior reports 14a.

The sorted reward product transaction data is then stored in a transaction data file 11. In a history file 11a, consumer history records 12 receive the reward product transaction data 30a according to consumer identification code 21a, and product history records 13 receive the reward product transaction data 30a according to the UPC information.

The PMCS 4 provides terminals for consumer service support 8. Representatives communicate with consumers 19 through 800 number telephone lines. The representatives use the terminals for receiving information from the consumer history records 12, the transaction data file 11, and the control files 5. The representatives in the customer service support 8 can make transaction corrections to the transaction data file 11 and consumer information corrections in the consumer history records 12. Additionally, the representatives can modify the consumer linking information stored in the control files 5 according to consumer requests.

Periodically, usually monthly, the consumer history files are used to create statement records 10a. The information in the statement records 10a is processed according to a mailer program 10b and sent to a printer

10c. With the formatted information, the printer produces a status report 17 for the consumer 19.

The status report 17 informs the consumer 19 of all his purchases of reward products 28. The status report 17 also indicates the number of additional purchases of each reward product 28 necessary to receive a reward as well as the reward amounts that have already been earned. In addition, the status report 17 informs the consumer 19 of the other product rewards available toward which the consumer 19 has made no purchases.

The consumer history records 12 store all the reward product transaction data 30a for each consumer 19. Using the control files 5 and the offer files 6, each consumer history record is processed to determine if the consumer 19 has made the required purchases to receive rewards. From this information, a reward certificate 18 is produced for the amount of all the rewards earned by the consumer 19.

The reward certificate 18 is sent to the consumer 19 with the monthly status report 17. The reward certificate 18 can be a negotiable check or a voucher to be redeemed at a participating retail store 20 for cash or credit toward product purchases. In the preferred embodiment, the reward certificates are bar-coded so that they may be read by the scanner 26 at the retail store 20. Redemption records 30 for the reward certificates 18 could then be stored in the program data collector 23 and periodically transferred to the PMCS 4. The central

management firm 3 uses the redemption records 30 to audit the amount reimbursed to the retail store.

The product history records 13 are used to prepare reward product invoices 15 according to reward offer for the manufacturer 1. Based upon the reward product invoices 15, the manufacturer pays the central management firm 3 for those rewards earned and paid to consumers 19.

Through the status report 17 and the reward certificate 18, the marketing program of the present invention completely automates the purchase reward system from the consumer viewpoint and creates a convenient inducement for the consumer 19 to continue to purchase the reward products 28 over an extended period unlike the single purchase enticements of the prior art. The present invention also improves over the prior art reward systems by removing the need for the consumer 19 to collect proofs of purchase to be mailed to the manufacturers for refunds.

Referring to FIG. 2, an alternative embodiment of the automated purchase reward system utilizes the in-store computer system 22 of the retail store 20 to perform some of the data processing of the purchase records 30a. Some retail stores equipped with scanners 26 and in-store computer systems 22 provide consumers 19 with bar-coded identification cards 21 so that transactions such as check-cashing may be recorded in the in-store computer 22. For retail stores 20 having a so-called frequent shopper program 24 in which bar-coded identification cards 21 are distributed, the preliminary preparation of the reward

product purchase data 30a can be performed at the retail store 20 according to the method set forth below.

The principal components of the automated reward system in this embodiment are the program management computer system (PMCS) 4, maintained by the central management firm 3, and an in-store computer system 22 located in a retail store 20. The PMCS 4 is linked to the in-store computer system 22 so that periodic exchanges of data may occur between the two computer systems.

The in-store computer system 22 comprises an in-store data bank 22a for storing a plurality of files. These files comprise product files 30 containing information related to store inventory, customer files 31 containing information related to consumers participating in a frequent shopper program 24, and reward files 32 containing information related to the purchase reward offers 2.

The in-store computer system 22 receives outputs from the check-out scanners 26 positioned near the check-out terminals 25. Each check-out terminal 25 comprises the conventional components of a keyboard for manual entries, a display, a cash register for storing payments, and a printer for producing receipts.

The PMCS 4 includes a program data bank 4a which stores reward files 42 and customer files 43 identical to those stored by the in-store data bank 22a as well as manufacturer files 41 containing information related to participating manufacturers 1 and their reward products 28.

When the consumer 19 joins the frequent shopper program 24, a customer file 31 is created for that consumer 19 in the in-store data bank 22a, and the consumer 19 receives a member identification card 21 and a consumer identification code 21a, which may be encoded on the member identification card 21 in machine-readable format. A copy of the customer file 31 is transferred to the program data bank 4a and stored in the customer file 43.

When the consumer 19 brings his products 27 and 28 to the check-out terminal 25, he presents his member identification card 21 for scanning. The in-store computer system 22 uses the consumer identification code 21a read by the scanner 26 to access his customer file 31 so that if any reward items 28 are purchased, a record of the purchase will be stored in the customer file 31.

Reward product purchase records 30 are transferred from the customer files 31 of the in-store data bank 22a to the customer files 43 in the program data bank 4a. From the reward product purchase records 30, the central management firm 3 prepares a status report 17 to be sent to the consumer 19.

The redemption and reimbursement process for the purchase reward program begins with the periodic transfer of reward product purchase records 30a from the in-store data bank 22a to the program data bank 4a. From these reward product purchase records 30a, the central management firm 3 determines the consumer's 19 earned rewards and



sends a reward certificate 18 to the consumer 19 for those rewards earned.

The consumer 19 redeems the reward certificate 18 at the retail store 20. The reward certificate redemption transaction is recorded in the customer record 31 of the consumer 19. A member identification card 21 is required for the redemption transaction, giving the consumer 19 added security against fraudulent redemption by another.

Periodically, records of redemption transactions 44 are transferred to the program data bank 4a from the in-store data bank 22a. From these redemption records 44, the central management firm 3 determines the redemption amounts and reimburses the retail store 20. Finally, the central management firm 3 uses the reward files 42 to prepare a report of reward items sold 45 to send to the manufacturer 1.

In this embodiment of the purchase reward system, the retail store 20 can simultaneously offer purchase incentives with the purchase reward program administered by the central management firm 3. For instance, the retail store 20 may offer points according to the volume of purchases a consumer 19 makes at the retail store 20. Hence, the retail store 20 and the participating manufacturers 1 can increase consumer loyalty through the marketing method of the present invention.

While preferred embodiments of the invention have been shown and described, several other modifications and improvements to these preferred embodiments will be

suggested to those skilled in the art. Accordingly, the invention should not be limited by the disclosure above, but only by the following claims:

WE CLAIM:

1. For use in a retail store point-of-sale system having terminals at customer check-out locations, an in-store computer system communicating with the terminals and having access to in-store data banks and a program management computer system, remotely located from the retail store, communicating with the in-store computer and having access to management data banks, a method for effecting manufacturer purchase reward offers, comprising the steps of:

identifying products for which purchase reward offers will be provided;

compiling the purchase reward offers for circulation to potential offerees;

providing each offeree an identification card with a consumer identification code thereon;

storing information respecting the purchase reward offers in the in-store computer data banks and in the management data banks;

identifying an offeree at the point-of-sale terminal by reading the consumer identification code of the offeree;

comparing products purchased by the offeree at the point-of-sale terminal with the stored information respecting the purchase reward offers;

identifying purchase reward offers available to the offeree for the purchased products; and

recording purchase transactions of products for which rewards will be provided.

2. The method of claim 1 wherein the consumer identification code is machine-readable.

3. The method of claim 1 wherein a record of purchase transactions is compiled in the in-store computer for each offeree.

4. The method of claim 3 wherein the record of the purchase transactions for each offeree are transferred to the management data base for compilation and transmission to the offeree.

5. The method of claim 1 wherein the record of the purchase transactions is compared with reward offer requirements indicated by the stored information respecting the reward offers to determine if a reward should be provided to the offeree.

6. The method of claim 1 wherein the products for which purchase rewards are offered are displayed at the retail store and are marked so that offerees may distinguish the reward products from non-reward products.

7. A method for effecting manufacturer purchase reward offers for use in a retail point-of-sale system having scanners at customer check-out locations and an in-store program data collector, said data collector comprising data storage means and communicating with the scanners and with a remotely located program management computer system, comprising the steps of:

defining a plurality of purchase reward offers, each purchase reward offer promising a reward to a plurality of offerees for purchasing at least one reward product;

storing offer information regarding the plurality of purchase reward offers in an offer file in a management data bank of the program management computer system;

providing each offeree with a member identification card with a consumer identification code thereon;

identifying one of the plurality of offerees at one of the customer check-out locations by reading the consumer identification code of said one of the plurality of offerees; \*

reading product identification information from machine-readable codes affixed to products purchased by said one of the plurality of offerees with one of the scanners;

storing the product identification information in the data storage means with said consumer identification code, said consumer identification code and said product identification information forming a purchase record;

transferring the purchase record to a data receiver in the program management computer system;

comparing the product identification information with the reward offer information to determine which purchased products are reward products;

combining the determined reward product identification information with the product identification information of previously purchased reward products stored in a consumer history file in the management data bank;

comparing the reward product information in the consumer history file with the offer information to determine which rewards have been earned; and

providing the one of a plurality of offerees with a reward certificate for the rewards earned.

8. The method of claim 7 wherein the consumer identification code is machine-readable.

9. The method of claim 7 wherein at least one of the purchase reward offers promises a reward for the purchase of at least two reward products.

10. The method of claim 7, further comprising the steps of:

transferring the determined reward product identification information from the data receiver to a transaction data file in the management data bank; and

combining the reward product identification information of the offeree with reward product identification information of at least one other offeree according to an offeree linking control file.

11. The method of claim 7 wherein the reward product purchase information in the consumer history file is used to produce a status report to the offeree, said

status report informing the offeree of the number of reward products purchases further needed to earn rewards and the rewards already earned.

12. The method of claim 7 wherein the reward products are displayed at a retail store and are marked so that the plurality of offerees can distinguish the reward products from non-reward products.

13. The method of claim 7 wherein the product identification information and the consumer identification codes are collected in a retail store computer, said retail store computer storing product identification information for sales and inventory purposes.

14. The method of claim 7, further comprising the step of compiling the offer information for distribution to the plurality of offerees.

15. The method of claim 14 wherein the offer information is compiled in a booklet.

16. The method of claim 8 wherein the consumer identification code is stored on a magnetic stripe and the retail store point-of-sale system further provides a magnetic stripe reader for reading the consumer identification code.

17. The method of claim 16 wherein the member identification card is also a bank debit card.

18. The method of claim 7 wherein the reward certificate is imprinted with a machine-readable redemption code so that a record of the redemption of the reward certificate may be stored in the in-store data collector.

19. The method of claim 18 wherein the redemption of the reward certificate requires a reading of the consumer identification code of the member identification card.

20. The method of claim 7, wherein the reward certificate is a negotiable instrument or bank check.

21. The method of claim 1, wherein the consumer identification code of the offeree is visually identified by retail store personnel at the consumer checkout location and manually entered in the terminal at the customer check-out location.

22. The method of claim 7, wherein the consumer identification code of one of the plurality of offerees is visually identified by retail store personnel at the customer check-out location and manually entered into the point-of-sale system at the customer check-out location.



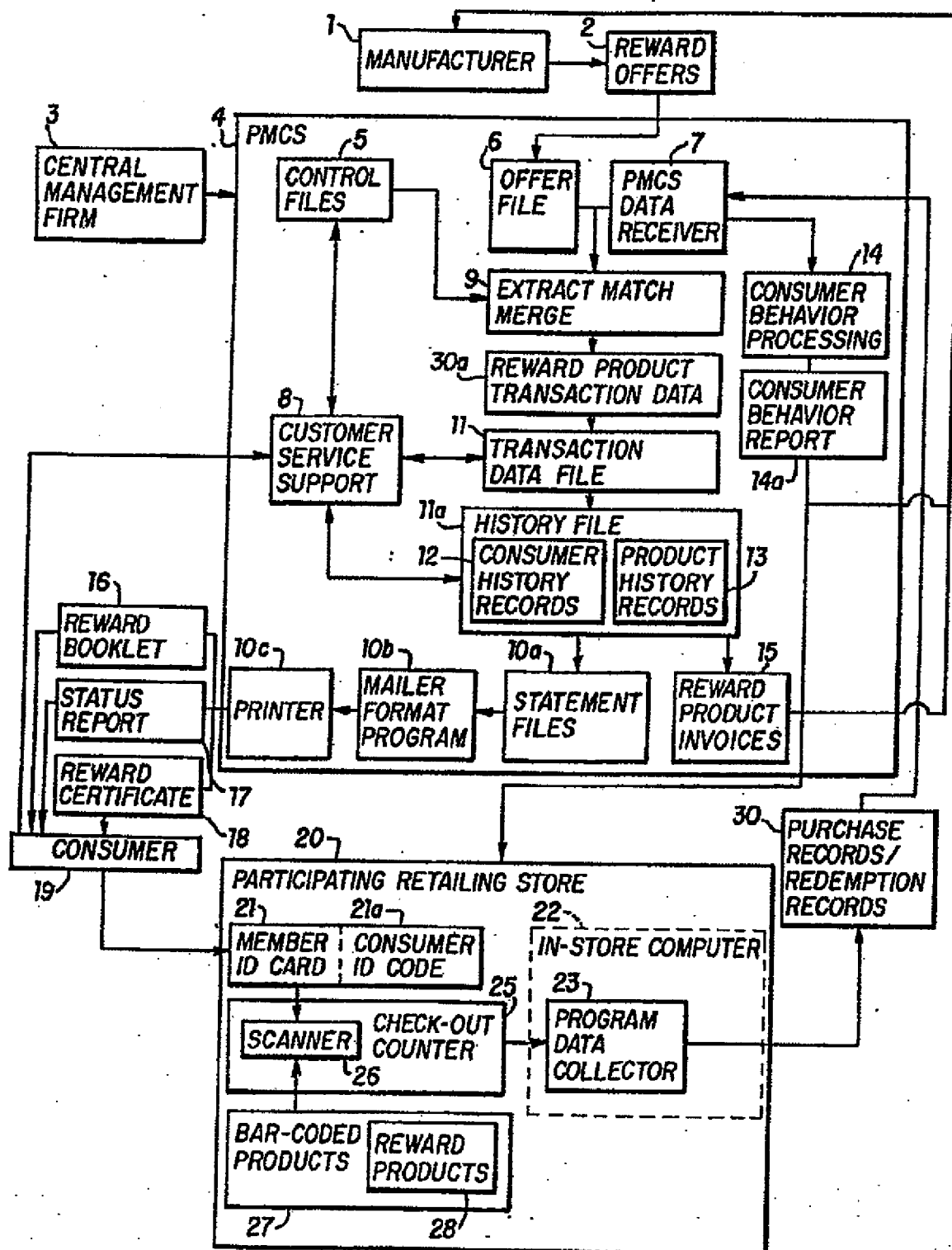


FIG. 7

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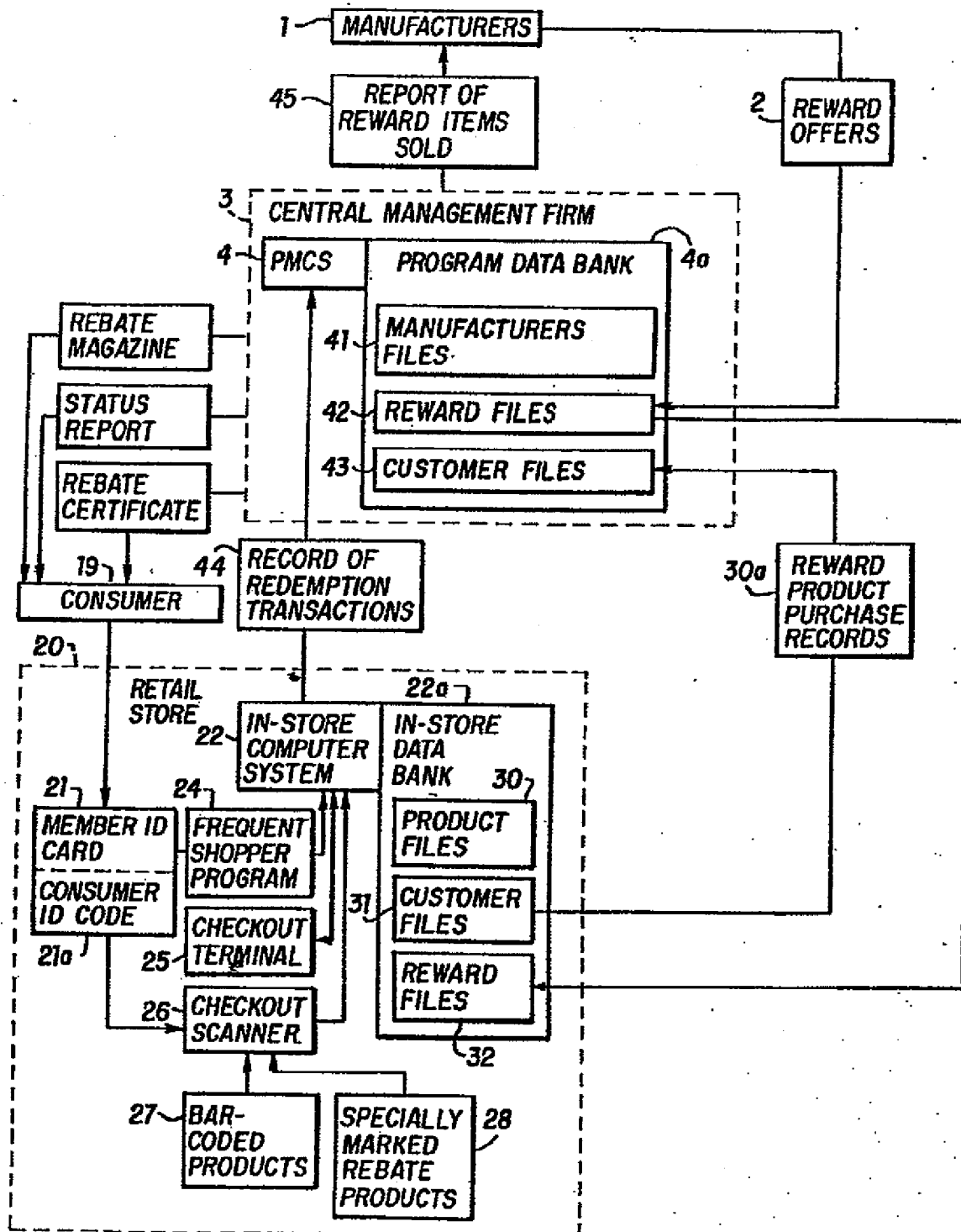


FIG. 2

# INTERNATIONAL SEARCH REPORT

International Application No. PCT/US90/04597

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all)  
According to International Patent Classification (IPC) or to both National Classification and IPC

IPC (3) : G06F 15/21  
U.S. Cl : 364/405,401

## II. FIELDS SEARCHED

Classification System	Minimum Documentation Searched ?	Classification Symbols
U.S.	364/405,401	

Documentation Searched other than Minimum Documentation  
to the extent that such Documents are included in the Fields Searched

## III. DOCUMENTS CONSIDERED TO BE RELEVANT \*

Category *	Citation of Document, ** with indication, where appropriate, of the relevant passages	Relevant to Claim No. 13
Y	JP, A 55-47560 (SUZAKI), 4 April 1980 (04.04.80).	1-22
Y	Patent Abstracts of Japan, Abstract Grp. no. P337, Vol. 9, no. 44, 20 October 1984 Shiyudou, Abstract no. 59-184965.	1-22
Y	Patent Abstracts of Japan, Abstract Grp. no. P570, Vol. 11, no. 129, 1 December 1986 Sakurai et al., Abstract no. 61-271569.	1-22
Y	Frozen Food Age, February 1987, "New Citicorp Subsidiary Will Provide Information Services to Grocery Field".	1-22

(CON'T)

\* Special categories of cited documents: W

"A" document defining the general state of the art which is not  
considered to be of particular relevance

"B" earlier document but published on or after the international  
filing date

"L" document which may throw doubts on priority claim(s) or  
which is cited to establish the publication date of another  
claim or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or  
other means

"P" document published prior to the international filing date but  
later than the priority date claimed

"T" later document published after the international filing date  
or priority date and not in conflict with the application but  
used to understand the principle or theory underlying the  
invention

"X" document of particular relevance: the claimed invention  
cannot be considered novel or cannot be considered to  
involve an inventive step

"Y" document of particular relevance: the claimed invention  
cannot be considered to involve an inventive step when the  
document is combined with one or more other such docu-  
ments, such combination being obvious to a person skilled  
in the art.

"Z" document member of the same patent family

## IV. CERTIFICATION

Date of the Actual Completion of the International Search

12 SEPTEMBER 1990

Date of Mailing of this International Search Report

14 FEB 1991

International Searching Authority

ISA/US

Signature of Authorized Officer

DAVID HUNTLEY

# III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category	Citation of Document	And indication, where appropriate, of relevant page(s)	Relevant to Claim No.
Y	Supermarket Business, Vol. 42, no. 2, February 1987, "Citicorp Tests Product-Consumer I.D. Link".		1-22
Y	Richmond Times-Dispatch, 8 February 1987, Rob Walker, "Ukrop's is testing electronic coupons".		1-22
Y	Supermarket News, Vol. 37, no. 8, 23 February 1987, Joel Elson, "Ukrop's POS Unit Cuts Patron's Cost".		1-22
Y	Advertising Age, 16 March 1987, "S&H, Saffer reward frequent shoppers", page 22 (abstract only).		1-22
Y	Supermarket News, 11 May 1987, Susan Zimmerman, "Ukrop's Bar Coding Helps Customers Save".		1-22
Y	Progressive Grocer, Vol. 66, No. 5, May 1987 "A New Dimension In Marketing", pages 133-136.		1-22
Y	Target Marketing, July 1987, "Electronic Coupons".		1-22
Y	Chain Store Age Executive, September 1987 "Ukrop's Tests Data Base Marketing Program".		1-22
Y	Supermarket News, Vol. 38, no. 33, 14 August 1987, Susan Zimmerman, "Holiday Expands Electronic Couponing".		1-22
Y	Washington Post, 14 June 1989, "Giant to Test Supermarket Cash Rebates", pages A1 and A32 (abstract only).		1-22

(CON'T)

## III DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category	Citation of Document	Indication of the relevance of the document passages	Relevant to Claim No.
Y	Washington Post, Vol. 112, no. 285, 16 August 1989, Mark Potts, "Giant to Widen 'Frequent Buyer' Rebate Test", page 12.		1-22
Y	Food & Beverage Marketing, Vol. 8, August 1989, "Scanning a new horizon", page 32.		1-22
Y	Dairy Food, November 1989, "Frequent buyer programs get off the ground", page 64. (abstract only)		1-22
Y	Adweek's Marketing Week, Vol. 30, 10 July 1989, Laurie Petersen, "Frequent buyer mania".		1-22
Y	Washington Post, 9 July 1989, "Checking Out the Customers' Habits".		1-22
Y,P	Los Angeles Times, 3 March 1990, Jesus Sanchez, "Bookstores Lift Page From Airline Marketing Manual", page 2.		1-22
Y,P	US,A. 4,910,672 (OFF ET AL.) 20 May 1990 (20.05.90).		1-22
Y,P	Advertising Age, 6 August 1990, "Frequent shopper programs ripen", page 21, (abstract only).		1-22
A	JP,A 52-16941 (TAKAGI), 8 February 1977 (08.02.77).		1-22
A	Patent Abstracts of Japan, Abstract Grp. no. P337; Vol. 9, no. 44, 18 October 1984. Shiyodou, Abstract no. 59-183465.		1-22

(CON'T)

## III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category	Citation of Document with abstract or, where appropriate, of the relevant passages	Relevant to Claim No
A	Supermarket News, 11 February 1985, "Rice, other Houston Factors Join Coupon Promotion", page 6, (abstract only).	1-22
A	Wall Street Journal 3 Star, Eastern, 7 August 1986, "Grocery Stores Copy Airlines With Frequent-Buyer Bonuses", page 21, (abstract only).	1-22
A	US,A 4,672,377 (MURPHY ET AL.) 9 June 1987 (09.06.87), note especially col. 3, line 64 to col. 4, line 10.	1-22
A	US,A 4,674,041 (LEMON ET AL.) 16 June 1987 (16.06.87).	1-22
A	US,A 4,723,212 (MINDRUM ET AL.) 2 February 1988 (02.02.88).	1-22
A,P	US,A 4,882,675 (NIGHTBERGER ET AL.) 21 November 1989 (21.11.89).	1-22
A,P	PR Newswire, 30 January 1990, "SSI signs frequent buyer software development/processing agreement with GTE", page 1, (abstract only).	1-22
A,P	San Francisco Chronicle, 18 June 1990, "Neiman Marcus' Frequent-Buyer Plan", page 23, (abstract only).	1-22
A,P	US,A 4,949,256 (HUMBLE) 14 August 1990 (14.08.90).	1-22